TROPICAL RAINFALL MEASURING MISSION

January 11, 1999 - January 17, 1999
DOY 011 - 017
Day of Mission 410 - 416

TRMM MISSION OPERATIONS

- TRMM is flying in the -X Forward direction as of 98-353, at 00:18:17z.
- The next Yaw maneuver is scheduled for January 19 (99-019).
- The next Delta-V maneuver is scheduled for January 20 (020) using the LBS thrusters.
- The Beta angle range for DOY 018 to 024 is -7.9° to 14.2°.

TRMM SUBSYSTEM OPERATIONS

Attitude Control System

Delta-V maneuver #70 was successfully conducted on 99-011 at 18:01:30z and 18:47:20z, for durations of 42 and 21 seconds, respectively, using the ISP thrusters. The off-modulation of the -Pitch thruster (#6) was 36.6% and 37.5%, respectively (63.4% and 62.5% on time). The remaining fuel is 769.085 kg and the final apogee and perigee height is 354.97 km x 347.47 km.

Delta-V maneuver #71 was successfully conducted on 99-016 at 16:48:07z and 17:35:00z, for durations of 39 and 24 seconds, respectively, using the ISP thrusters. The off-modulation of the -Pitch thruster (#6) was 37.2% and 33.3%, respectively (62.8% and 66.7% on time). The remaining fuel is 767.612 kg and the final apogee and perigee height is 354.82 km x 347.59 km.

The ESA has experienced Sun interference in quadrants 1 and 3 on 99-011 and 99-012. The ESA has experienced Moon interference in quadrants 1 and 3 on 99-011 through 99-015 and has transitioned nominally between 3 and 4 head control.

Flight Data System (FDS)/Command & Data Handling (C&DH)

The Frequency Standard continues to drift in the negative direction. The frequency is currently x74D and the current drift rate is -1.90 μs/hr. The UTCF is currently 31535996.872372 sec and the current drift value is -517 μs.

Q-Channel Restarts occurred on 99-012 at 03:08z, 11:46z, and 11:47z, 99-013 at 02:07z, 04:05z, and 14:58z, and 99-014 at 19:11z.

EDAC multi-bit errors occurred on 99-011 at 01:15z and 04:10z, 99-015 at 11:37z, and 99-016 at 15:22z.

A Flywheel condition occurred on 99-015 at 09:20:53z. The current dwell value is ‘fc’.

Reaction Control Subsystem (RCS)

The RCS subsystem performed nominally during this period. See the ACS section for specific Delta-V information.

Power Subsystem

The Power subsystem operated nominally during this period.

Electrical Subsystem

The Electrical subsystem operated nominally during this period.

Thermal Subsystem

The Thermal subsystem operated nominally during this period.

Deployables Subsystem

The Deployables subsystem performed nominally during this period.

The Solar Arrays continue to operate with the original +/- 130° software stops in place until the new scenario with wider FDC limits can be fully tested and approved by a review board.

RF/Communications Subsystem

The RF/Communications subsystem has performed nominally during this time.

A generic late acquisition occurred on 99-011 at 23:46:30z with no loss of data (see the Late Acquisition Report section for more details).

SPACECRAFT INSTRUMENTS

CERES

CERES is currently powered off and CERES personnel are developing a plan for operating the instrument with the +15 V DAA anomaly.

On 99-019 at about 21:00z, CERES will powered on for a 48 hour period to gather science data with the French SCARAB instrument on the RESURS-01 spacecraft.

LIS

LIS performed nominally during this time period.

PR

PR performed nominally during this time period.

On 99-007, the Australian regions were re-enabled for PR until further notice, and the weekly Wednesday calibration has been halted until that time.

TMI

TMI performed nominally during this time period.

VIRS

VIRS performed nominally during this time period.

GROUND SYSTEM

String 2 upgrade was started on 99-011. New hard drives were installed and the upgrade to the new UNIX 10.2 operating system is currently being done. In preparation of a final GTAS upgrade plan, the GTAS machine which was on string 2 is now connected to the string 3 home disk and GTAS software. GTAS will be upgraded once string 2 transition is completed.

On 99-013 at 09:35, the MOC was notified by the NCC that the UARS spacecraft went critical and the majority of the pass at 09:55z (event taken by UARS at 09:58:30z) on TDW was needed (Event #81). PACOR was notified of the shortened pass and the MOC recovered all missing data on the next event at 10:32z.

FEP 3 was experiencing CRC errors which at first indicated a bad card (Event #82). Maintenance determined the problem to be a loose wire on the Cornet Switch.

Event Reports

#81 - TDW Event Shortened due to UARS going to Critical.
#82 - FEP 3 Had Loose Wire.

Generic Late Acquisition Reports (for TTRs 19639)

#26 - on 99-011: TDW/SA1; 1 minute 6 seconds; all data was recovered.

New Anomaly

No new Anomaly Reports were opened during this week.

Recurring Open Anomalies

No recurring open Anomalies occurred during this week.

Prepared by
Joseph Kowalski
TRMM Systems Engineer

Approved by
Jeff Volosin
FOT Manager